Explaining the PFAS Risk Information, Dueling Numbers, and Risk Triggers

EPA's PFAS health advisory is calculated using the same basic equation as the Superfund program's equation except that the Superfund program does not assume a relative source contribution (RSC). The RSC is a safety factor that assumes a person has already consumed a certain amount of PFAS before they even start drinking PFAS-contaminated water. In this case, the .2 below assumes that 80% of a person's total accepted body burden of PFAS is already taken up by things other than drinking water (food consumption, Teflon pans, air contamination, etc…). That leaves only 20% of body burden for the drinking water PFAS risk.

Health Advisory Calculation

(.00002 mg/kg/day x 66 kg/3.588L) X .2= 70 ppt

The .00002 mg/kg/day is the reference dose that comes from the animal and human studies. Assumptions are based on a lactating woman drinking 3.588 liters of water per day with a body weight of 66 kg. The 0.2 equals relative source contribution (RSC).

The Superfund number calculated below does not include the RSC, and is calculated the same way as the health advisory.

Superfund Risk Trigger Calculation

(.00002 mg/kg/day x 66 kg/3.588L)= 400 ppt

In order for an NPL site to trigger EPA to spend money on an remedial action, the site has to represent an unacceptable risk. In general, using our current interpretation of guidance, that unacceptable risk would be determined by developing a cleanup number using a risk calculation similar to the one above. That number would end up being about 400 ppt (as shown above) depending on the exact inputs we use.

Deliberative Process / Ex. 5

I have tried to simplify this as much as possible here. However, as you can imagine, there are significant complexities related to what I am simplifying above. I hope this helps. Good luck!